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OUTCOME OF PERCUTANEOUS CORONARY INTERVENTION (PCI) USING DRUG ELUTING STENTS IN CHILDREN

i2 Poster Contributions
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Tuesday, April 05, 2011, 9:30 a.m.-10:45 a.m.

Session Title: PCI - Congenital, Structural, Valvular
Abstract Category: 14. PCI - Congenital, Pediatric and Structural Defects
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Background: Percutaneous coronary intervention (PCI) and stenting are rare events in infants and children. Maintaining patency in a growing child could be a challenge. Sirolimus-eluting stents (SES) have been shown in adult coronary artery disease to lower in-stent stenosis. This study examined the feasibility & efficacy of PCI using SES in children with coronary artery stenosis (CAS).

Methods: Since May 2002, SES (n=4) were used in 3 children, 9 months to 13 years of age, with CAS. Two of the children were moribund at the time of the procedure. The stenoses occurred after surgical repair of anomalous left coronary artery, pulmonary valve implantation and heart transplantation. All procedures were performed under general anesthesia.

Results: CAS was caused by coronary artery stretching, compression or injury. All patients were treated with heparin and abciximab during the procedure, and aspirin and clopidogrel for six months thereafter. Sirolimus-eluting stents were successfully deployed in all patients without undesirable embolization or vascular injury. Cardiac function was restored in the critically ill patients who were subsequently discharged from hospital. Recatheterizations over the subsequent 6-8 years, showed patency of all the stented vessels without intimal proliferation, and appropriate growth of the adjacent coronary artery. All are at a functional I level (Ross Grading).

Conclusions: It is feasible to treat coronary artery stenosis in the young by transluminal stenting using Sirolimus-eluting stents. In-stent restenosis was not observed over time. Reintervention will be necessary when the adjacent coronary arteries outgrow the stented coronary artery diameter.